

TRANSMITTAL LETTER TO THE UNITED STATES

DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371

U.S.APPLICATION NO. (if known, see 37 CFR 1.5)

09/646995

INTERNATIONAL APPLICATION NO.
PCT/DE99/00816INTERNATIONAL FILING DATE
3 March 1999PRIORITY DATE CLAIMED
24 March 1998

TITLE OF INVENTION

METHOD FOR USING INTERNET ACCESS NETWORKS THROUGH MOBILE
INTERNET COMPATIBLE MOBILE COMMUNICATION TERMINALS

APPLICANT(S) FOR DO/EO/US

KARL-ULRICH STEIN

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay.
4. A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. A copy of International Application as filed (35 U.S.C. 371(c)(2)) - drawings attached.
 - a. is transmitted herewith (required only if not transmitted by the International Bureau).
 - b. has been transmitted by the International Bureau.
 - c. is not required, as the application was filed in the United States Receiving Office (RO/US)
6. A translation of the International Application into English (35 U.S.C. 371(c)(2)) - drawings attached.
7. Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. §371(c)(3))
 - a. are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. have been transmitted by the International Bureau.
 - c. have not been made; however, the time limit for making such amendments has NOT expired.
 - d. have not been made and will not be made.
8. A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).

*10: A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern other document(s) or information included:

11. An Information Disclosure Statement under 37 C.F.R. 1.97 and 1.98; (PTO 1449, Prior Art, Search Report).
12. An assignment document for recording. A separate cover sheet in compliance with 37 C.F.R. 3.28 and 3.31 is included.
13. A **FIRST** preliminary amendment.
14. A **SECOND** or **SUBSEQUENT** preliminary amendment.
15. A substitute specification.
16. Other items or information:
 - a. Submission of Drawings -
 - B. Express Mail Label EJ 077699345US

17. The following fees are submitted:**BASIC NATIONAL FEE (37 C.F.R. 1.492(a)(1)-(5):**

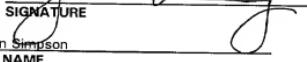
Search Report has been prepared by the EPO or JPO \$840.00

International preliminary examination fee paid to USPTO (37 C.F.R.
1.482) \$670.00No international preliminary examination fee paid to USPTO (37 C.F.R.
1.482) but international search fee paid to USPTO (37 C.F.R. 1.445) \$970.00Neither international preliminary examination fee (37 C.F.R. 1.482) nor
international search fee (37 C.F.R. 1.445(a)(2) paid to USPTO . . . \$970.00International preliminary examination fee paid to USPTO (37 C.F.R. 1.482)
and all claims satisfied provisions of PCT Article 33(2)-(4) \$ 96.00**ENTER APPROPRIATE BASIC FEE AMOUNT =** \$ 840.00Surcharge of \$130.00 for furnishing the oath or declaration later than 20 30
months from the earliest claimed priority date (37 C.F.R. 1.492(e)).

Claims	Number Filed	Number Extra	Rate	
Total Claims	10	- 20 =	X \$18.00	\$ 00
Independent Claims	01	- 3 =	X \$ 78.00	\$ 00
Multiple Dependent Claims			\$260.00	+
TOTAL OF ABOVE CALCULATIONS =				\$840.00
Reduction by $\frac{1}{2}$ for filing by small entity, if applicable. Verified Small Entity statement must also be filed. (Note 37 C.F.R. 1.9, 1.27, 1.28)				\$
SUBTOTAL =				\$ 840.00
Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$
TOTAL NATIONAL FEE =				\$ 840.00
Fee for recording the enclosed assignment (37 C.F.R. 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 C.F.R. 3.28, 3.31). \$40.00 per property				\$
TOTAL FEES ENCLOSED =				\$ 840.00
				Amount to be refunded
				charged

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Deposit Account No. 501519. A duplicate copy of this sheet is enclosed.NOTE: Where an appropriate time limit under 37 C.F.R. 1.494 or 1.495 has not been met, a petition to revive (37 C.F.R. 1.137(a)
or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

Schiff Hardin & Waite
Patent Department
6600 Sears Tower
Chicago, Illinois 60606
SIGNATURE

John Simpson

NAME

19,842 (Registration No.)

**METHOD FOR USING INTERNET ACCESS NETWORKS WITH MOBILE,
INTERNET-COMPATIBLE COMMUNICATION TERMINAL DEVICES**

The Internet communication network represents a global overlay communication network wherein the Internet access networks or, respectively, the

5 Internet servers are connected via public and private communication networks. Access to the Internet ensues mainly via the subscriber line areas or, respectively, feeder networks of public or private communication fixed networks -- for example the telephone network of the ISDN communication network. Alternatively, access is provided via communication radio networks -- for example, the public mobile

10 radiotelephone network or a wireless network working according to the DECT or CDMA transmission method. Since the Internet access networks or, respectively, Internet servers are regionally or super-regionally operated, the respective Internet user or, respectively, the user's Internet communication terminal device must be logged on at the respective Internet server or, respectively, Internet operator. This registration is required for a charge registration for Internet services. This means that the respective Internet access networks can only be used by the logged-on or, respectively, registered Internet users or, respectively, their communication terminal devices in the respective region or can only be reached via expensive, narrowband connections via the worldwide telephone network.

15

20 Further, a mobile Internet protocol is being currently designed for Internet users wherein mobile Internet communication terminal devices are allowed to have worldwide access to the Internet by a different Internet access networks or, respectively, different Internet operators. A mobile, global utilization of the Internet becomes possible on the basis of this service of the mobile Internet.

25 The object underlying the invention is comprised in fashioning the Internet access networks such that these can be used by arbitrary, mobile communication terminal devices. This object is achieved by the features of patent claim 1.

30 The critical aspect of the inventive method is to be seen therein that at least one commercial interface for cash-free payment for a use of the respective

Internet access network is respectively provided in the Internet access networks.

Within the framework of the log-on of a mobile communication terminal device in the respective Internet access network, a traffic relationship to the commercial interface is set up and, following a cash-free payment via the commercial interface effected by the

5 communication terminal device, the respective Internet access network can be used by the mobile communication terminal device.

The critical advantage of the inventive method is to be seen therein that an Internet communication terminal device can both be registered as well as implement a cash-free payment for the Internet access with the assistance of the commercial

10 interface. The registration at an Internet access network with the assistance of a mobile Internet protocol additionally effects that an Internet user can be reached worldwide. A further advantage is the local realization of the commercial interface in the Internet access network, since the information exchange with respect to the cash-free payment is limited to the Internet access network, i.e. does not ensue via the Internet itself, and, thus, a global communication of confidential information or, respectively, data transmitted given cash-free payment is avoided. A temporary or a longer or, respectively, continuous use of the respective Internet access network can be effected with the cash-free payment - claim 3 -, whereby a longer-term registration in the respective Internet access network can also be connected to the commercial

15

20 interface. As a result thereof, a registration provided without the commercial interface can be foregone.

The cash-free payment ensues especially advantageously with the assistance of a credit card - claim 3 -, whereby a credit card information and a personal identification information are communicated to the commercial interface via

25 the communication terminal device and via the Internet access network.

Alternatively, other cards or an input of the credit card information at an input means are also possible, a cash-free payment with the commercial interface of the respective Internet access network being possible with the assistance thereof, whereby a read means - claim 4 - is to be adapted to the cards employed. Alternatively, a uniform

30 input means - for example a numerical or alphanumerical keyboard - can be provided for the input of the personal identification and the credit card information.

According to a further development of the inventive method, an electronic signature is communicated from the affected communication terminal device to the commercial interface in the framework of a security system and/or the identification and credit card information to be communicated is encrypted individually associated

5 to the communication terminal devices - claim 7.

Further advantageous developments of the inventive method can be derived from the further claims.

The inventive method is explained in greater detail below with reference to a drawing.

10 The drawing shows a block circuit diagram of an arrangement of communication networks for which the inventive method is provided. The global Internet - indicated in the drawing by a dot-dash oval reference IN - is thereby connected to Internet servers IN-S, i.e. the access to the Internet IN is controlled via these devices. For example, two Internet servers IN-S are shown, whereby one
15 Internet server IN-S/F is connected to a communication fixed network KFN-indicated in the drawing by dot-dash oval referenced with KFN - and a further Internet server IN-S/M is connected to a communication radio network KMN - indicated by a dot-dash oval referenced KMN in the drawing. The communication fixed network KFN is realized, for example, by a service-integrating communication network ISDN or by
20 a telephone communication network FE. Communication fixed network-individual communication terminal devices KE (KFN) are connected to this communication fixed network KFN via subscriber lines ASL.

The communication radio network KMN can, for example, be realized by an existing mobile radio telephone network GSM or by future mobile radio telephone
25 networks UMTS according to a future UMTS standard for mobile radio telephone networks. Further communication radio networks KMN are fashioned, for example, according to a DECT or CDMA standard or a TD-CDMA standard - indicated by the designation RLL in the block circuit diagram. Mobile radio telephone network-individual communication terminal devices KE (KMN) are wirelessly connected to
30 the communication network KMN.

It is assumed for the exemplary embodiment that the communication terminal devices KE (KFN), KE (KMN) connected to the communication fixed network KFN and to the communication radio network KMN are Internet-compatible, i.e. are equipped with the circuit-oriented and program-oriented means for a

5 communication with the Internet IN. This means that the communication terminal devices KE represent a processor-controlled means - particularly a personal computer - that exhibits a picture screen means and a keyboard. It is also assumed that the communication terminal devices KE (KFN), KE (KMN) represent communication terminal devices KE that can be utilized at different geographical locations. This
10 means that the communication terminal device KE (KFN) - particularly - a portable personal computer with an ISDN interface - can be connected to a communication fixed network KFN at different communication terminals KA. Of course, the inventive method can also be employed given a fixed connection of a communication terminal device KE (KFN) to a communication network KFN. A pre-requisite for the mobility of the communication terminal devices KE is a corresponding fashioning of the Internet IN, i.e. a mobile Internet protocol MIP is implemented in the Internet IN with whose assistance a service for the connection of mobile communication terminal devices KE is realized.

15

The inventive communication terminal devices KE (KFN) KE (KMN),
20 further, are respectively equipped with an input means EE - shown by way of example in the communication terminal device KE for communication radio networks (KMN) - or a reader means LE into which a credit card KK can be inserted - indicated by a dot-dash arrow. With the assistance of the input means EE, the credit card information ki stored in a credit card KK as well as the identification information id, i.e. the personal identification pin, can be input by an Internet user.

25

The communication fixed network KFN and the communication radio network KMN respectively form feeder networks AN for the Internet access network IN-AN or, respectively, the Internet IN.

After a wireless or wire-bound connection of a mobile communication
30 terminal device KE (KFN, KMN), a log-on procedure is implemented in the respective communication network KFN, KMN. Such a log-on procedure can, for

example, be implemented with the corresponding communication terminal device identification - not shown - , whereby different identifications are employed for the communication fixed network KFN and the communication radio network KMN.

Subsequently, a connection from the respective communication terminal device KE

- 5 (KFN, KMN) is setup to the allocated Internet server IN-S/F, IN-S/M. The setup of the connection and the log-on procedure are implemented in the communication terminal devices with the assistance of a signaling routine SR. After the connection setup, the respective communication terminal device KE (KFN, KMN) in the respective Internet server IN-S is connected to a commercial interface SBB for cash-free payment. The commercial interface SBB is realized in software terms by an interface routine BB. As a result of a communication relationship between the reader means SE or input means EE or, respectively, the signaling routine SR of the requesting communication terminal devices KE and the commercial interface SBB, identification information id (pin) and credit card information ki are communicated to the commercial interface SBB. After a check of these communicated identification and credit card information id (pin), ki, the access to the Internet IN is enabled in the respective Internet server IN-S, i.e. the requesting communication terminal device KE can setup traffic relationships via the Internet to Internet-specific devices - not shown - or to other communication terminal devices KE.
- 10
- 15

20 The cash-free payment for an access to the Internet via the commercial interface SBB can be provided both for a temporary use as well as for a longer or, respectively, continuous use of the access to the Internet IN or, respectively, the respective Internet server IN-S.

25 The wire-bound communication terminal devices can be alternatively connected via transmission devices, whereby transmission methods are used that do not influence the existing line technologies for, for example, the integrated services communication network ISDN or the analog telephone network FE. Such transmission technologies are the standardized ADSL and x DSL transmission methods. No connections to the respective Internet server need thereby be setup,

- 30 since these communication terminal devices are directly connected to the respective Internet server IN-S via the respective connection technology. A log-on or,

respectively, registration in the respective Internet server IN-S continues to be required.

The inventive method is not limited to the exemplary embodiment since the inventive method can also be realized given the greatest variety of public or

5 private feeder networks AN to the respective Internet servers IN-S or, respectively, or, respectively, Internet access networks IN-AN. A respective adaptation in view of the signaling and the protocols employed must thereby be taken into consideration.

Patent Claims

1. Method for using various Internet access networks (IN-AN) with mobile, Internet-compatible communication terminal devices (KE),

- whereby at least respectively one commercial interface (SBB) for cash-free payment for a use of the respective Internet access network (IN-AN) is respectively provided in the Internet access networks (In-AN);
- whereby a traffic relationship to the commercial interface (SBB) is set up in the framework of the logon of a mobile communication terminal device in the respective Internet access network (IN-AN);
- 10 -- whereby the respective Internet access network (IN-AN) can be used by the mobile communication terminal device (KE) after a cash-free payment via the commercial interface (SBB) that is effected by the communication terminal device (KE).

2. Method according to claim 1, characterized in that a mobile Internet protocol (MIP for realizing a communication terminal device mobility is provided in the Internet access network (IN-AN).

3. Method according to claim 1 or 2, characterized in that a temporary or continuous use of the respective Internet access network (IN-AN) is effected with the cash-free payment.

20 4. Method according to claim 1 or 2, characterized in that the cash-free payment ensues with the assistance of a credit card (KK), whereby a credit card information (ki) as well as an identification information (id) or, respectively, a personal identification information (pin) are communicated to the communicated to the commercial interface (SSB) via the communication terminal device (KE) and via the Internet access network (IN-AN).

5. Method according to claim 4, characterized in that the credit card information (ki) are read in the mobile communication terminal devices (KE) with the assistance of reader devices (LE) for credit cards or are input by input devices.

30 6. Method according to one of the claims 1 through 5, characterized in that, in the framework of a security system of the cash-free payment, an electronic signature is communicated from the affected communication terminal device (KE) to

the commercial interface (SSB) and/or the identification and credit card information (id, ki) to be communicated are encrypted in communication terminal device-associated fashion.

7. Method according to one of the claims 1 through 6, characterized in that
5 the mobile communication terminal devices (KE) are represented by communication radio network comm terminal devices (KE(KMN) and an Internet access network (IN-AN) is represented by at least one Internet server (IN-S/M) connected to a communication radio network (KMN).

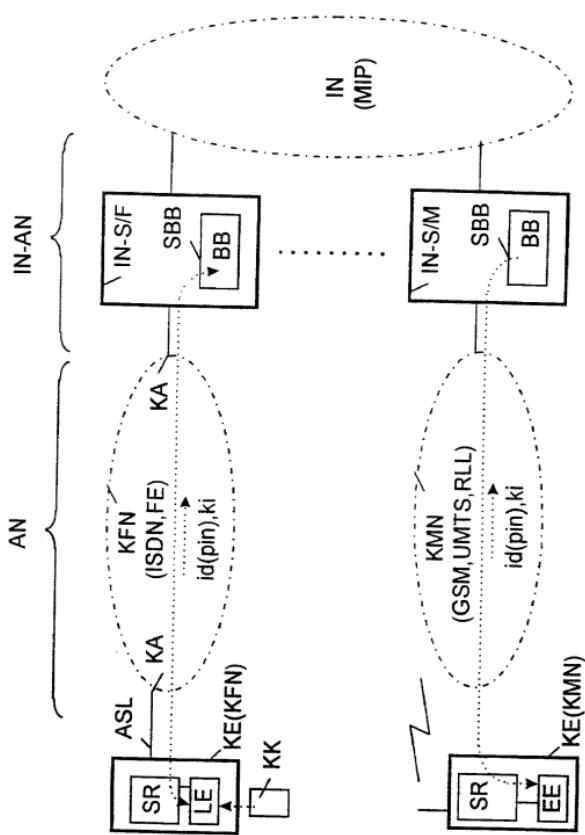
8. Method according to one of the claims 1 through 6, characterized in that
10 the mobile communication terminal devices (KE) are represented by portable communication fixed network communication terminal devices (KE(KMN) and an Internet access network (IN-AN) is represented by at least one Internet server (IN-S/F) connected to a communication fixed network (KFN).

9. Method according to one of the preceding claims, characterized in that
15 the commercial interface (SSB) is integrated in the at least one Internet server (IN-S/F, IN-S/M) or is arranged in the at least one Internet server (IN-S/F, IN-S/M).

10. Method according to one of the claims, characterized in that mobile computer devices are connectable to the mobile communication terminal devices (KE), whereby the cash-free payment is implemented with the assistance of the
20 mobile communication terminal devices (KE).

11. Method according to one of the preceding claims, characterized in that
-- a connection to the Internet access network (IN-AN) is set up via the
feeder networks (AN) of public or private communication fixed networks (KFN) or communication radio networks (KMN);
25 -- the commercial interface (SSB) is introduced during a logon procedure between the respective Internet access network (IN-AN) and the communication terminal device (KE) requesting an Inter [sic] access;
-- identification and credit card information (id, ki) are communicated between the requesting communication terminal device (KE) and the
30 commercial interface (SSB) in the framework of a payment procedure for cash-free payment; and

-- access to the Internet (IN) via the Internet access network (IN-AN) is subsequently granted to the requesting communication terminal device (KE).



Declaration and Power of Attorney For Patent Application
Erklärung Für Patentanmeldungen Mit Vollmacht
 German Language Declaration

Als nachstehend benannter Erfinder erkläre ich hiermit
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 Antrag gestellt wird und für den ein Patent beantragt
 wird für die Erfindung mit dem Titel:

**Verfahren zur Nutzung von Internet-
 Zugangsnetzen durch mobile
 internetfähige Kommunikationsendgeräte**

deren Beschreibung

(zutreffendes ankreuzen)

hier beigefügt ist.

am _____ als

PCT internationale Anmeldung

PCT Anmeldungsnummer _____

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abgeändert wurde (falls tatsächlich abgeändert).

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 den Anmeldung in Einklang mit Absatz 37, Bundes-
 gesetzbuch, Paragraph 1.56(a) von Wichtigkeit sind,
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My residence, post office address and citizenship are
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I believe I am the original, first and sole inventor (if
 only one name is listed below) or an original, first and
 joint inventor (if plural names are listed below) of the
 subject matter which is claimed and for which a patent
 is sought on the Invention entitled

the specification of which

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is attached hereto.

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PCT Application No. _____

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I hereby state that I have reviewed and understand the
 contents of the above identified specification,
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I acknowledge the duty to disclose information which
 is material to the examination of this application in
 accordance with Title 37, Code of Federal
 Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35,
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 for patent or inventor's certificate listed below and
 have also identified below any foreign application for
 patent or inventor's certificate having a filing date
 before that of the application on which priority is
 claimed:

German Language Declaration

Prior foreign applications

Priorität beansprucht

Priority Claimed

19812924.6

Germany

24. März 1998

(Number)

(Country)

(Day Month Year Filed)

(Nummer)

(Land)

(Tag Monat Jahr eingereicht)



Yes

No

Ja

Nein

(Number)

(Country)

(Day Month Year Filed)

(Nummer)

(Land)

(Tag Monat Jahr eingereicht)



Yes

No

Ja

Nein

(Number)

(Country)

(Day Month Year Filed)

(Nummer)

(Land)

(Tag Monat Jahr eingereicht)



Yes

No

Ja

Nein

Ich beanspruche hiermit gemäss Absatz 35 der Zivilprozeßordnung der Vereinigten Staaten, Paragraph 120, den Vorzug aller unten aufgeführten Anmeldungen und falls der Gegenstand aus jedem Anspruch dieser Anmeldung nicht in einer früheren amerikanischen Patentanmeldung laut dem ersten Paragraphen des Absatzes 35 der Zivilprozeßordnung der Vereinigten Staaten, Paragraph 122 offenbart ist, erkenne ich gemäss Absatz 37, Bundesgesetzbuch, Paragraph 1.56(a) meine Pflicht zur Offenbarung von Informationen an, die zwischen dem Anmelde datum der früheren Anmeldung und dem nationalen oder PCT internationalen Anmelde datum dieser Anmeldung bekannt geworden sind.

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §122, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

(Application Serial No.)
(Anmeldeseriennummer)(Filing Date)
(Anmeldedatum)(Status)
(patentiert, anhängig,
aufgegeben)(Status)
(patented, pending,
abandoned)(Application Serial No.)
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aufgegeben)(Status)
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Ich erkläre hiermit, dass alle von mir in der vorliegenden Erklärung gemachten Angaben nach meinem besten Wissen und Gewissen der vollen Wahrheit entsprechen, und dass ich diese eidesstattliche Erklärung in Kenntnis dessen abgebe, dass wissentlich und vorsätzlich falsche Angaben gemäss Paragraph 1001, Absatz 18 der Zivilprozeßordnung der Vereinigten Staaten von Amerika mit Geldstrafe belegt und/oder Gefängnis bestraft werden können, und dass derartig wissentlich und vorsätzlich falsche Angaben die Gültigkeit der vorliegenden Patentanmeldung oder eines darauf erteilten Patentes gefährden können.

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German Language Declaration

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POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (list name and registration number)

Means, John D. Simpson (Registration No. 19,842) Lewis T. Steadman (17,074), William C. Stuber (18,453), P. Philippe Connor (19,259), Dennis A. Gross (24,410), Marvin Moody (19,549), Steven H. Noll (20,982), Brett A. Valiquet (27,841), Thomas J. Ross (29,778), Kevin W. Guynn (29,927), Edward A. Lehmann (22,512), James D. Hobart (24,149), Robert M. Barnett (20,142), James Van Santen (16,584), J. Arthur Gross (13,615), Richard J. Schwarz (13,472) and Marvin A. Robinson (31,870), David R. Metzger (22,918), John R. Garrett (27,888) all members of the firm of Hill, Steadman & Simpson, A Professional Corporation.

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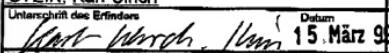
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Unterschrift des Erfinders 	Datum 15. März 98	Inventor's signature	Date
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Staatsangehörigkeit		Citizenship	
Bundesrepublik Deutschland			
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D-82008 Unterhaching			
Bundesrepublik Deutschland			
Voller Name des zweiten Miterfinders (falls zutreffend):		Full name of second joint inventor, if any:	
Unterschrift des Erfinders	Datum	Second inventor's signature	Date
Wohnsitz		Residence	
Staatsangehörigkeit		Citizenship	
Postanschrift		Post Office Address	

(Bitte entsprechende Informationen und Unterschriften im Falle von dritten und weiteren Miterfindern angeben).

(Supply similar information and signature for third and subsequent joint inventors).